

## Syllabus For Jute Batching Spreader and Softener Operator

<b>Course Name</b>	Jute Batching Spreader and Softener Operator
<b>Sector</b>	Textiles & Handlooms
<b>Course Code</b>	TXT/2024/JSSO/347
<b>Level</b>	3
<b>Occupation</b>	Jute Batching Spreader and Softener Operator
<b>Job Description</b>	The Jute Batching Spreader and Softener Operator are responsible for efficiently operating and maintaining jute batching, spreading and softening machinery in a manufacturing or processing setting. The primary duty includes overseeing the batching process to ensure the proper alignment and arrangement of jute fibers, operating the spreader machine to achieve even distribution and managing the softener machine to enhance the softening quality of jute fibers.
<b>Course Duration</b>	<b>Total Duration 390 Hrs (T-90, P-180, OJT-60 and ES-60)</b>
<b>Trainees' Entry Qualification</b>	Grade 10 OR Grade 8 pass and pursuing continuous schooling in regular school with vocational subject OR 8th grade pass with 2 yrs relevant experience OR 5th grade pass with 5 years relevant experience OR Previous relevant Qualification of NSQF Level 2 with one yr experience OR Previous relevant Qualification of NSQF Level 2.5 with 6 months experience
<b>Trainers Qualification</b>	B. Tech/B.E. in Textile Technology/ Textile Engineering from AICTE/UGC recognized Engineering College/ university with one-year experience in the relevant field. OR 03 years Diploma in Textile Technology/ Textile Engineering/ Knitting Technology from AICTE recognized board of technical education with two years' experience in the relevant field. OR NTC/NAC in Textile related course with three years' experience in relevant field

Structure of Course:

Module	Module name	Outcome	Compulsory/ Elective	Theory (Hrs)	Practical (Hrs)	OJT (Hrs.)	Total (Hrs) [Multiple of 30]
1	<b>Health, safety and security at the work site</b>	Apply safe working practices	Compulsory	20	10		30
2	<b>Tools, material handling equipment and machinery for jute processing</b>	Maintain work area, tools, material handling equipment and machinery for jute processing	Compulsory	20	40		60
3	<b>Jute spinning process</b>	Demonstrate Jute spinning process	Compulsory	20	40		60
4	<b>Introduction to batching, jute softener machine and spreader machine</b>	Operate batching machinery, jute softener machine and jute spreader machine	Compulsory	20	70		90
5	<b>Duties and responsibilities of Jute Softener and spreader machine operator</b>	Explain duties and responsibilities of Jute Softener and spreader machine operator	Compulsory	10	20		30
6	<b>OJT</b>	Work in real job situation with special emphasis on basic safety and hazards in this domain (OJT).	Compulsory	-	-	60	60
7	<b>Employability Skill</b>	As per guided curriculum	Compulsory	60	-	-	60
<b>TOTAL</b>				<b>150</b>	<b>180</b>	<b>60</b>	<b>390</b>

**SYLLABUS:****Module No. 1: Health, safety and security at the work site**

**Outcome:** Apply safe working practices

**Theory Content:**

- Health and safety related instructions manual applicable to the workplace.
- Maintenance of the tools
- Mechanical and electrical hazards and its types.
- Use different mechanical and electric protection methods.
- Classification of fire.
- Electric fire or fire from others source and the method of extinguish.
- Different types of fire extinguishers.
- First-Aid box and its use.
- First-Aid for burning, electric shock etc.
- Recognize the different possible security issues existing in the workplace
- Safety devices used for protection of jute batching and softener operator.
- Hazardous materials, intoxicant items and their effects.

**Practical Content:**

- Demonstrate of Safe working practices on construction sites.
- Demonstrate first-aid box and its components.
- Identify hazards and procedure to avoid accidents at work sites.
- Identify fire extinguisher for different fire.
- Operate fire extinguisher.
- Demonstrate first aid for the victim undergone burning, electric shock etc.
- Demonstrate the use of year plug, nose mask, shoe and head cap etc. 8. Observe different hazards symbols in work place.

**Module No. 2: Tools, material handling equipment and machinery for jute processing**

**Outcome:** Maintain work area, tools, material handling equipment and machinery for jute processing

**Theory Content:**

- Study, identifications and functions of all tools used in jute batching softening operations.
- Study, identification and function of material handling equipment jute batching softening operations.
- Procedure to collect the waste jute materials for further processing
- Maintenance procedure for tools, equipment and machineries.
- Importance of correct posture of working/sitting/standing during working in respective jute processing machinery.
- Stoppage of machine in emergency situation.
- Study the different stop motions related to softener machine

**Practical Content:**

- Procedure to operate and handle the tools.
- Procedure to operate the equipment.

- Practical correct posture while handling machines.
- Practical knowledge on the maintenance procedure of tools and equipments, machineries and work area inside the mill.
- Practical practices of stoppage of the machine in emergency situation.
- Practice the different stop motions of softener machine.

### **Module No. 3: Jute spinning process**

**Outcome:** Demonstrate Jute spinning process

#### **Theory Content:**

- Different jute producing area and their quality
- Brief introduction about Jute fibre, physical appearance, feel at hand. Brief introduction of jute cropping, its environment, cultivation, retting, post retting process etc.
- Grades of jute fibre.
- Jute selection parameters - strength, root content, length, colour, lustre, density of fibres & defects of jute etc.
- Purpose of root cutting.
- Importance of maintaining standard morah weight.
- Process flow of different stages of jute processing.
- Brief description of different intermediate and end products and diversified products of jute spinning.

#### **Practical Content:**

- Observe the feel of jute fibres by hand also observe its physical
- Properties - flexing, loading and diameter.
- Understood the selection process of jute fibres for spinning.
- Demonstrate the process flow line of jute spinning.
- Understood the objective of each process in spinning line.
- Observe the end product of jute spinning by hand.

### **Module No. 4: Introduction to batching, jute softener machine and spreader machine**

**Outcome:** Operate batching machinery, jute softener machine and jute spreader machine

#### **Theory Content:**

- Necessity of jute softening.
- Functioning of softener
- Different parts of softener and their function
- Operating process of softener machine
- Motions transmission and driving mechanism of spreader and softening machine
- Softener for cutting and process piling
- Importance of piling temperature
- Preparation of oil in water emulsion
- Importance of emulsifier
- Safety measures in softener machine
- Emulsion and its purpose
- Important check points during application of emulsion

- Piling - its purpose and importance of different parameters, like – temperature, duration, piling height, etc.
- Concept of roll/morah and sandwich piling system
- Preparation of oil in water emulsion.
- Machine jamming and remedies.
- Objective of spreader machine, components of spreader machine
- Working principle of spreader machine. Procedure of piling of spreader rolls
- Lubrication in spreader machine

**Practical Content:**

- Explain the significance of Jute softener machine and jute spreader machines and identify the main components.
- Identify and label the main components of both jute softener and spreader machines
- Explain the concept of roll/morah and sandwich piling system
- Demonstrate the operation of motions transmission and driving mechanism of spreader machine
- Demonstrate the piling process after jute softening and spreading using spreader rolls
- Identify various components viz rollers, tanks and control panels and their functions
- Define the concept of emulsion process.
- Inspect the piling process.
- Identify the piling temperature.
- Identify and apply lubrication to components require for maintenance

**Module No. 5: Duties and responsibilities of Jute Softener and spreader machine operator**

**Outcome:** Explain duties and responsibilities of Jute Softener and spreader machine operator

**Theory Content:**

- Role of softener feeder and receiver
- Role of spreader machine operator
- Do's and Don'ts in softening and spreader machine
- Clogging and cleaning of conductor
- Duties and responsibilities of a softener machine feeder and receiver
- Machine jamming and cleaning
- Safety points to be observed during softening machine and spreading machine operations.
- Basic maintenance of spreader and softener machine.
- Quality control measures.

**Practical Content:**

- Hands on practice on softener machine and spreader machine
- Duties and responsibilities of softener operator and spreader operator
- Duties and responsibilities of a softener machine feeder and receiver. Practice of applying of emulsion on jute fibres during piling. Maintenance procedure of softener machine and spreader machine
- Practical knowledge on jamming and cleaning process of softener. Safety and cleanliness aspects while practice on machine operation.
- Practice of starting and stopping of machine.
- Hands on practice on feeding and receiving of jute fibre in softener

- Clogging and cleaning process of conductor

### **Module 6: OJT**

**Outcome:** Work in real job situation with special emphasis on basic safety and hazards in this domain

#### **Practical Content:**

Assessor will check report prepared for this component of Practical training of the course and assess whether competency has been developed to work in the real job situation with special emphasis on basic safety and hazards in this domain. (The trainee is expected to undertake work in actual workplace under any supervisor / contractor for **60 Hours**.)

### **Module 7: Employability Skills (60 Hrs)**

#### **Key Learning Outcomes**

#### **Introduction to Employability Skills** Hours

Duration: 1.5

After completing this programme, participants will be able to:

1. Discuss the Employability Skills required for jobs in various industries
2. List different learning and employability related GOI and private portals and their usage

#### **Constitutional values - Citizenship** Hours

Duration: 1.5

3. Explain the constitutional values, including civic rights and duties, citizenship, responsibility towards society and personal values and ethics such as honesty, integrity, caring and respecting others that are required to become a responsible citizen
4. Show how to practice different environmentally sustainable practices.

#### **Becoming a Professional in the 21st Century** Hours

Duration: 2.5

5. Discuss importance of relevant 21st century skills.
6. Exhibit 21st century skills like Self-Awareness, Behavior Skills, time management, critical and adaptive thinking, problem-solving, creative thinking, social and cultural awareness, emotional awareness, learning to learn etc. in personal or professional life.
7. Describe the benefits of continuous learning.

#### **Basic English Skills** Hours

Duration: 10

8. Show how to use basic English sentences for everyday conversation in different contexts, in person and over the telephone
9. Read and interpret text written in basic English
10. Write a short note/paragraph / letter/e -mail using basic English

**Career Development & Goal Setting**  
Hours

Duration: 2

11. Create a career development plan with well-defined short- and long-term goals

**Communication Skills**

Duration: 5 Hours

12. Demonstrate how to communicate effectively using verbal and nonverbal communication etiquette.
13. Explain the importance of active listening for effective communication
14. Discuss the significance of working collaboratively with others in a team

**Diversity & Inclusion**  
Hours

Duration: 2.5

15. Demonstrate how to behave, communicate, and conduct oneself appropriately with all genders and PwD
16. Discuss the significance of escalating sexual harassment issues as per POSH act.

**Financial and Legal Literacy**

Duration: 5 Hours

17. Outline the importance of selecting the right financial institution, product, and service
18. Demonstrate how to carry out offline and online financial transactions, safely and securely
19. List the common components of salary and compute income, expenditure, taxes, investments etc.
20. Discuss the legal rights, laws, and aids

**Essential Digital Skills**  
Hours

Duration: 10

21. Describe the role of digital technology in today's life
22. Demonstrate how to operate digital devices and use the associated applications and features, safely and securely
23. Discuss the significance of displaying responsible online behavior while browsing, using various social media platforms, e-mails, etc., safely and securely
24. Create sample word documents, excel sheets and presentations using basic features
25. utilize virtual collaboration tools to work effectively

**Entrepreneurship**

Duration: 7 Hours

26. Explain the types of entrepreneurship and enterprises
27. Discuss how to identify opportunities for potential business, sources of funding and associated financial and legal risks with its mitigation plan
28. Describe the 4Ps of Marketing-Product, Price, Place and Promotion and apply them as per requirement
29. Create a sample business plan, for the selected business opportunity

**Customer Service**

Duration: 5 Hours

30. Describe the significance of analyzing different types and needs of customers
31. Explain the significance of identifying customer needs and responding to them in a professional manner.
32. Discuss the significance of maintaining hygiene and dressing appropriately

**Getting Ready for apprenticeship & Jobs**

Duration: 8 Hours

33. Create a professional Curriculum Vitae (CV)
34. Use various offline and online job search sources such as employment exchanges, recruitment agencies, and job portals respectively
35. Discuss the significance of maintaining hygiene and confidence during an interview
36. Perform a mock interview
37. List the steps for searching and registering for apprenticeship opportunities

**Learning Outcome – Assessment Criteria**

Module No.	Outcome	Assessment Criteria
1	Apply safe working practices	<p><b>After completion of this module students will be able to:</b></p> <ol style="list-style-type: none"> <li>1.1 Identify and interpret information from health and safety manual</li> <li>1.2 Explain the importance of tools maintenance for ensuring safety and efficiency</li> <li>1.3 Identify various mechanical and electrical hazards in the workplace</li> <li>1.4 Describe different mechanical and electrical protection methods</li> <li>1.5 Classify different types of fires</li> <li>1.6 Identify and demonstrate the use of various fire extinguishers</li> <li>1.7 Identify hazardous materials and intoxicant items in the workplace</li> <li>1.8 Identify the components of a first aid box</li> <li>1.9 Explain the correct use of safety gear</li> </ol>
2	Maintain work area, tools, material handling equipment and machinery for jute processing	<p><b>After completion of this module students will be able to:</b></p> <ol style="list-style-type: none"> <li>2.1 Demonstrate the tools used in jute batching and softening operations</li> <li>2.2 describe material handling equipment used in jute batching and softening operations</li> <li>2.3 Describe the procedure for collecting waste jute materials for further processing</li> <li>2.4 Outline the maintenance procedures for tools,</li> </ol>



Module No.	Outcome	Assessment Criteria
		<p>equipment and machinery used in jute batching and softening</p> <p>2.5 Apply correct posture practices while handling machines during practical sessions</p> <p>2.6 Practice the correct procedure for stopping machines in emergency situations</p> <p>2.7 Demonstrate the practical execution of different stop motions on the softener machine</p>
3	Demonstrate Jute spinning process	<p><b>After completion of this module students will be able to:</b></p> <p>3.1 Explain the different jute-producing areas</p> <p>3.2 Describe jute fiber, covering its physical appearance</p> <p>3.3 Identify and describe different grades of jute fiber</p> <p>3.4 Explain jute selection parameters such as strength, root content, length, color, lustre etc</p> <p>3.5 Describe the process flow of different stages in jute processing</p> <p>3.6 Explain the different intermediate and end products as well as diversified products</p>
4	Operate batching machinery, jute softener machine and jute spreader machine	<p><b>After completion of this module students will be able to:</b></p> <p>4.1 Explain the necessity and significance of jute softening in the processing industry</p> <p>4.2 Describe the functioning of the softener machine in jute processing</p> <p>4.3 Identify different parts of the softener machine and their respective functions</p> <p>4.4 Describe the use of softener in cutting and the process of piling</p> <p>4.5 Outline the procedure for preparing oil in water emulsion</p> <p>4.6 Describe the safety measure specific to the operation of the softener machine</p> <p>4.7 Define the concept of emulsion and its purpose in jute softening</p> <p>4.8 Explain the concept of roll/morah and sandwich piling system</p> <p>4.9 Explain the common cause of machine jamming in softener and spreader machines</p> <p>4.10 Inspect the spreader machine and identify its components</p> <p>4.11 Explain the working principle of spreader machine</p> <p>4.12 identify and apply lubrication to components requiring maintenance</p>

Module No.	Outcome	Assessment Criteria
5	Explain duties and responsibilities of Jute Softener and spreader machine operator	<p><b>After completion of this module students will be able to:</b></p> <ul style="list-style-type: none"> <li>5.1 Explain the roles and responsibilities of the softener machine feeder and receiver</li> <li>5.2 Define the role and responsibilities of the spreader machine operator</li> <li>5.3 Emphasize safety protocols and best practices to ensure efficient machine operation</li> <li>5.4 Explain the causes and consequences of clogging in the conductor</li> <li>5.5 Outline the causes and remedies for machine jamming</li> <li>5.6 Explain the safety point that must be observed during softening and spreading machine operations</li> <li>5.7 Demonstrate the correct procedure for starting and stopping both softener and spreader machines</li> </ul>
6	OJT	Work in real job situation with special emphasis on basic safety and hazards in this domain (OJT).
7	Employability Skill	As per guided curriculum

**List of Tools, Equipment & materials needed for 30 Trainees (Practical)**

Sl. No.	Name of Tools/Equipment/Machines	Quantity
1	Jute softener machine	2
2	Jute spreader machine	2
3.	Hammer	4
4	Spanner set	10
5	Screw driver	10
6	Oil can	2
7	Grease gun	2
8	Face mask.	30
9	Chopper/Knife	4
10	Wooden block for chopping	4
11	Set of spikes for hackling	4
12	Trolley for Bale carrying	4
13	Hook	4
14	Trolley for keeping selected jutes (Barrow)	2
15	Thermometer	2
16	Portable moisture meter	2
17	Weighing balance, etc	2

### Marks Distribution

Outcome	Outcome Code	Total Th marks	Total Pr marks	Total OJT marks
Apply safe working practices	TXT/3708/OC1	30	90	0
Maintain work area, tools, material handling equipment and machinery for jute processing	TXT/3708/OC2	30	140	0
Demonstrate Jute spinning process	TXT/3708/OC3	30	140	0
Operate batching machinery, jute softener machine and jute spreader machine	TXT/3708/OC4	30	170	0
Explain duties and responsibilities of Jute Softener and spreader machine operator	TXT/3708/OC5	30	110	0
Work in real job situation with special emphasis on basic safety and hazards in this domain (OJT).	TXT/3708/OC6	0	0	150
Employability Skills – 60 Hrs	DGT/VSQ/N0102	50	0	0